

VISIT US ON THE WEB

Be sure to ask for parental assistance before getting online at www.nasa.gov/ares. Click the Ares Education link, on the left of the screen for additional information:

- Print a Full-Page Color Poster and Paper Funnel Template.
- View Detailed Ramp Assembly Instructions.
- Send us an e-mail with comments and pictures of your Ares I Can Model by clicking on Ares Education Program under Contacts on the right of the screen.

National Aeronautics and
Space Administration



ARES I CAN MODEL



National Aeronautics and Space Administration

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*A hands-on project to help learn about
and interact with NASA's Ares I Rocket.*

OVERVIEW

NASA plans to take humans back to the Moon, and the Ares I Crew Launch Vehicle (CLV) will help them get there. The Ares I rocket is made of several parts:

1. Orion Crew Exploration Vehicle (CEV)
2. Instrument Unit (IU)*
3. Core Stage (CS)*
4. Upper Stage Engine (USE) located within the Interstage (IS)*
5. Frustum
6. First Stage (FS), and
7. Aft Skirt. (Unfold to see picture below.)

Become a NASA team member and build an Ares I Can Model by following the recipe.

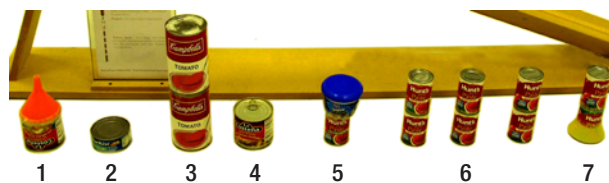
** Parts of the Upper Stage (US)*

The Ares I Can Model, originally designed for blind students, serves as part of an interactive tour for the Instrument Unit Performance Analysis and Design Demonstrator (PADD). The Human Factors Engineering Team at the Marshall Space Flight Center in Huntsville, AL developed it for the Tennessee School for the Blind (TSB) in Nashville, TN.

GETTING STARTED

To make an Ares I Can Model, begin by collecting the following ingredients:

- Two, 12-oz. Green Pickled Jalapeno Peppers
 - One, 15-oz. Spaghetti with Meatballs
 - Two, 25-oz. Tomato Soup
 - One, 6-oz. Chunk Light Tuna
 - Nine, 6-oz. Tomato Paste
 - Clear Duct Tape
 - Two Plastic Funnels
- (The funnel template for cardboard/paper/tin foil materials is located on the Ares Education Web site.)
- Cotton (Optional)



The recipe shows how to make these can groups.

RECIPE

1. Tape a funnel to the top of an upside down can of peppers (The peppers symbolize the propulsion engine “hot zone” of the Orion Crew Exploration Vehicle.) The Orion holds four astronauts.
2. The tuna can represents the Ares I Instrument Unit that contains the “brains” of the rocket such as the flight computer. FUN FACTS: A tuna can = 1½-in high; 57⅓ tuna cans = 86-in high, the height of the Instrument Unit; 2,600 tuna cans = 325-ft high, the height of the Ares I Vehicle.
3. Stack and tape the two tomato soup cans to symbolize the liquid rocket fuel (liquid hydrogen and liquid oxygen) of the Upper Stage.
4. Again the Ares I Upper Stage Engine located within the Interstage is represented as the second can of peppers.
5. Then tape the spaghetti with meatballs on top of one tomato paste can for the Frustum section between the First and Upper Stages.
6. To make the First Stage of the solid rocket fuel, tape two tomato paste cans on top of each other; do this four times as seen in the picture above.
7. Finally, make a slit down the side of the larger funnel, and cut off its top to become the rocket’s Aft Skirt. (For safety or easier assembly substitute cardboard, paper, or tin foil.) Tape the funnel around the bottom of the tomato paste can. The cotton can be placed under this section to show the fuel’s byproduct, which is released upon take-off. Now continue to assemble the Ares I rocket just like a NASA engineer.

DISPLAY RAMP

The Human Factors Engineering Team built a ramp to proudly display the Ares I Can Model. It is a V-shaped ramp made of medium-density fiberboard (plywood) at a twenty-degree slope.



Placing First Stage on cotton.

Ares I Expanded View

